Please amend the following claims as set forth below. A marked up version of the claims is included in a separate paper attached to this Amendment as Appendix A.

8. (Twice amended) A method for preparing an article having a platinum-aluminide surface region, comprising the steps of:

providing a substrate having a nickel-base superalloy substrate bulk composition and a substrate surface;

depositing a layer of platinum upon the substrate surface, thereafter;

diffusing a platinum from the layer of platinum into the substrate surface, thereafter;

providing a source of aluminum; and thereafter

diffusing aluminum from the source of aluminum into the substrate surface for a time sufficient to produce a substantially single phase surface region at the substrate surface, the surface region having an integrated aluminum content of from about 18 to about 28 percent by weight and an integrated platinum content of from about 18 to about 45 percent by weight, balance components of the substrate bulk composition.

16. (Twice amended) A method for preparing an article having a platinum-aluminide surface region, comprising the steps of:

providing a substrate having a nickel-base superalloy substrate bulk composition and a substrate surface, thereafter;

depositing a layer of platinum about 0.0003 inches thick upon the substrate surface, thereafter;

heating the substrate and layer of platinum to a temperature of about 1800-2000°F for a time of about 2 hours, thereafter;

providing a source of aluminum in contact with the substrate surface, the source of aluminum having an activity of about 40 to about 50 atomic percent as measured in a pure nickel foil; and simultaneously

heating the substrate surface and the source of aluminum to a temperature of about 1925-2050°F for a time of from about 4 to about 16 hours to form a substantially single phase surface region.

47. (Twice amended) A method of forming a thermal barrier coating on a substrate, comprising:

chemical vapor depositing a diffusion aluminide layer on the substrate which includes a nickel base superalloy substrate under deposition conditions effective to provide an outer aluminide layer region comprising a substantially single phase solid solution intermediate phase and an inner diffusion zone region proximate the substrate;

said intermediate phase including an average aluminum concentration in the range of about 18 to about 28 % by weight, an average platinum concentration in the range of about 8 to about 45 % by weight, and an average nickel concentration of about 50 to about 60 % by weight so as to be non-stoichiometric relative to intermetallic compounds of aluminum and nickel, or aluminum and platinum, said outer aluminide layer region being substantially free of phase constituents other than said intermediate phase;

oxidizing the diffusion aluminide layer under temperature and oxygen partial pressure conditions effective to form an alpha alumina layer; and

depositing a ceramic thermal barrier layer on the alumina layer,

wherein said intermediate phase further comprises a surface, distant from said inner diffusion zone region, and the intermediate phase includes the aluminum content and the platinum content which is relatively high adjacent to the surface and decreases with increasing depth into the intermediate phase.

73. (Twice amended) A method of forming a thermal barrier coating on a substrate, comprising:

chemical vapor depositing a substantially single phase diffusion aluminide layer on the substrate which includes a nickel base superalloy substrate, said aluminide layer including an average aluminum concentration in the range of about 18 to about 28 % by weight and an average platinum concentration in the range of about 8 to about 45 % by weight, wherein said aluminide layer further comprises a surface, and includes the aluminum content and the platinum content which is relatively high adjacent to the surface and decreases with increasing depth into the aluminide layer and the substrate; and

depositing a ceramic thermal barrier layer on the aluminide layer.

89. (Amended) A method of forming a platinum-aluminide surface region proximate to the surface of a nickel-base superalloy substrate, comprising:

forming a platinum layer at the substrate surface by a method selected from the group consisting of electroplating, sputtering and metallo-organic chemical vapor deposition, thereafter;

heating the substrate to a temperature of from about 1800 to about 2000°F for a time of about 2 hours; and thereafter

depositing aluminum onto the nickel-base superalloy substrate by using an aluminum source and diffusing said aluminum into the substrate surface at an elevated temperature, at an aluminum activity of from about 40 to about 50 atomic percent in a pure nickel foil, and for a time of from about 4 to about 16 hours to form a substantially single phase platinum-aluminide surface region proximate the substrate surface, said platinum-aluminide surface region comprising from about 18 percent to about 24 percent by weight integrated aluminum content, from about 8 to about 45 percent by weight integrated platinum content and from about 31 percent by weight to about 74 percent by weight integrated nickel content.

REMARKS

II. Claim 112

Applicant added claim 112 in the last Amendment dated 3, 2002, which is not noted on the Office Action Summary as pending. Applicant respectfully requests that the Examiner acknowledge that claim 112 is in fact pending in the present application and provide the status of this claim. Please note that Applicant has provisionally filed a Notice of Appeal from the final rejection of this claim, although no such rejection has been noted on the Office Action Summary.

III. 35 U.S.C. § 112 Rejection

Claims 8 to 10, 12, 13, 47 and 89-94 have been rejected for allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession